

IN THE CLAIMS:

1 1. – 13. (Cancelled)

1 14. (Currently Amended) A method for initiating a peer-to-peer communication session,
2 comprising:

3 creating, using a cluster connection manager executing on a first server, an initial
4 connection with a cluster partner on a second server;

5 exchanging a set of peer connection information between the first and second
6 servers;

7 passing a set of cluster connection manager client information to the cluster part-
8 ner, wherein the set of cluster connection manager client information includes at least one
9 virtual interface and any memory requirements for ~~each~~a cluster manager client;

10 creating a set of ~~appropriate~~ communication ports using the set of cluster connec-
11 tion manager client information, wherein the at least one virtual interface connection al-
12 lows remote direct memory access (RDMA) operations that allow the cluster connection
13 manager ~~operating~~executing on the first server to directly access memory regions of the
14 cluster partner operating on the second server before a storage operating system execut-
15 ing on the cluster partner is fully active, the RDMA read operation bypassing the operat-
16 ing system;

17 alerting the cluster partner of a ready status; and

18 alerting a set of cluster connection manager clients that the cluster partner is in a
19 ready state.

1 15. (Original) The method of claim 14 wherein the set of clients comprises a failover
2 monitor process.

1 16. (Original) The method of claim 14 wherein the set of peer connection information
2 comprises a version number.

1 17. (Previously Presented) The method of claim 14 wherein the step of passing a set of
2 client information to the cluster partner further comprises:

3 collecting, from a set of clients, the set of client information; and

4 transferring the collected set of client information to the cluster.

1 18. (Original) The method of claim 17 wherein the client information comprises a num-
2 ber of communication ports required.

1 19. (Original) The method of claim 17 wherein the set of client information further com-
2 prises an amount of memory requested by a particular client.

1 20. (Previously Presented) The method of claim 14 wherein the step of creating an initial
2 connection further comprises using remote direct memory access primitives to create the
3 initial connection.

1 21. (Previously Presented) The method of claim 14 wherein the step of creating an initial
2 connection further comprises performing a series of remote direct memory access opera-
3 tions to create the initial connection.

1 22. – 27. (Cancelled)

1 28. (Currently Amended) A system configured to manage reliable peer communication
2 among storage systems in a clustered environment, the system comprising:

3 one or more peer processes executing on each storage system partner; and

4 a cluster connection manager executing on each storage system partner, the clus-
5 ter connection manager creating a set of peer-to-peer connections between the one or
6 more peer processes executing on each storage system, wherein the cluster connection
7 manager is provided to reliably create virtual interface connections between peer proc-
8 esses executing on the storage system partners over a cluster interconnect without requir-
9 ing a storage operating system executing on each storage system to be fully active or
10 functioning, wherein the virtual interface connection allows remote direct memory access
11 (RDMA) operations that allow the cluster connection manager operating on the first
12 server to directly access memory regions of the cluster partner operating on the second
13 server before the storage operating system executing on the cluster partner is fully active,
14 the RDMA read operation bypassing the operating system.

1 29. (Currently Amended) A computer readable medium containing-storing executable
2 program instructions executed by a processor, comprising:

3 program instructions that create, using a cluster connection manager executing on
4 a first server, an initial connection with a cluster partner on a second server;

5 program instructions that exchange a set of peer connection information between
6 the first server and the second server;

7 program instructions that pass a set of cluster connection manager client informa-
8 tion to the cluster partner, wherein the set of cluster connection manager client informa-
9 tion includes at least one virtual interface and any memory requirements for each a clus-
10 ter manager client;

11 program instructions that create a set of ~~appropriate~~-communication ports using
12 the set of cluster connection manager client information, wherein the at least one virtual
13 interface connection allows remote direct memory access (RDMA) operations that allow
14 the cluster connection manager ~~operating-executing~~ on the first server to directly access
15 memory regions of the cluster partner operating on the second server before a storage op-
16 erating system executing on the cluster partner is fully active, the RDMA read operation
17 bypassing the operating system;

18 program instructions that alert the cluster partner of a ready status; and
19 program instructions that alert a set of cluster connection manager clients that the cluster
20 partner is in a ready state.

1 30. – 38. (Cancelled)